telecommunications environment demonstrates that it is an exercise in policy choice, not one by which "the truth' can be divined. It invites once again widespread regulatory battles over what costs are appropriately included, and how to quantify them.

For COBAK, the controversy will transmogrify into defining a "central office," again tying new and different networks to the ILEC legacy network. Moreover, the substantial opportunity for regulatory arbitrage still remains since transport can still be purchased as interstate, intrastate, special access or as an unbundled network element. Again, the reduction in administrative and transaction costs is illusory. Further, neither proposal confidently counteracts the exploitation of market power. COBAK deliberately sets out with a framework (encouraging over-investment in transport facilities) that is admittedly inefficient, but deemed necessary to eliminate perceived free rider problems. The unintended consequences that flow from a plan that itself creates inefficiency are difficult to quanti@ but nonetheless can be expected to be substantial.

In any event, as evident from the discussion that follows, the papers identify problems and offer solutions for issues that have arisen under the current regime in the context of wireline interconnection, but not necessarily in LEC-CMRS interconnection. Thus, while they provide helpful insights, the papers are of limited value in the CMRS context.

1. Bill and keep approximates cost.

In the case of LEC-CMRS interconnection, bill and keep sends efficient signals to the market of the underlying costs of the service being consumed. As Dr. DeGraba's paper

observes, the current regime of calling party network pays requires only one party to the call to pay its full costs, notwithstanding the fact that both parties benefit from the call.[52]

It is particularly evident in the case of CMRS-terminated calls that both parties benefit from the call. First, the fact that CMRS customers are willing to pay for incoming calls persuasively establishes that they perceive a benefit to receiving the call. Further, **CMRS** customers can make informed choices as to whether they wish to receive a call, since most subscribers have phones that display the telephone number of the originator of an incoming call (caller ID). The problem of 'junk calls' identified by Dr. DeGraba is absent, since telemarketing calls to mobile phones has been outlawed by Congress.[53] These factors indicate strongly that more efficient consumption decisions will be made when prices reflect the benefits obtained. Bill and keep allows each party to a call to bear its costs of that call, eliminating today's assignment of all costs to the initiating party.

The simple case against bill and keep rests on the straightforward notion that while bill and keep sets terminating costs at zero, the costs of such services are positive, and mostly usage sensitive. Thus, the Commission concluded earlier that terminating services should reflect these costs through usage sensitive charges. However, even from a static perspective, the highly averaged costs and prices used under the current regime necessarily fail the goal of sending efficient price signals. Further, dynamic efficiency as well has been ignored.

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52 In the case of CMRS, because wireless carriers generally must charge their customers for calls they receive from the landline network, the observation is not fully applicable. The observation does hold, however, in the case of CMRS-initiated calls to the landline network.

53 47 **U.S.C.**§ 227(b)(1)(A)(iii).

It is important to understand that bill and keep does not require carriers to provide terminating services for "free." Rather, it is a type of barter system wherein each carrier obtains terminating services from the other in exchange for the consideration that it will reciprocally provide such services to the other carrier. Whether or not this consideration is equivalent to the services received is *not* dependent upon balanced traffic flows, but rather requires inquiry into the amount of traffic delivered for termination to a carrier during its peak busy hour along with the cost of providing that capacity.

The costs imposed by terminating traffic are the costs of increasing capacity in order to provide this additional service. The only time additional traffic increases a network's costs are when that additional traffic would strain its capacity. Because telephone networks are necessarily engineered to meet peak load demand, only traffic that terminates during the peak hour imposes additional costs (i.e., the increased costs of adding additional capacity required to terminate that traffic). Traffic passed to a carrier for termination outside the peak busy hour imposes virtually no additional costs to that carrier. But accounting for peak load costs is exceptionally difficult and illusive and thus inefficient. Peak hours will vary for some facilities, e.g., switches serving residential neighborhoods, and the costs of adding capacity will vary depending upon geographic areas or the type of equipment extant in the facility requiring the additional capacity. In any event, peak pricing will suppress demand during peak times relative to off-peak, and traffic volumes will shift to off-peak, making the prices once again depart from actual costs.[54] The current regime thus averages the costs of terminating the traffic in a number of respects, and never approximates actual costs. But any attempt to eliminate this averaging

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[54] For instance, many **CMRS** providers offer service packages which include fewer peak minutes, but thousands of off-peak minutes of use.

would be a task far costlier than the possible benefits, as a practical matter. There is no particular reason why public policy should prefer usage sensitive pricing over bill and keep. The relative "efficiency" of positive prices is illusory due to the inescapable broad averaging reflected in those prices.[55]

The Commission had previously expressed concern that bill and keep might work to aggravate inefficiency if traffic is imbalanced. But as noted above, the relevant costs are not determined by looking only to the respective traffic flows, but rather by examining the amount of traffic delivered for termination to a carrier during its peak busy hour along with the cost of providing that peak capacity. In other words, termination costs for interconnecting carriers will be equal where the number of busy hour minutes terminating on carrier **A's** network multiplied by carrier **A's** cost of terminating traffic equals the busy hour minutes terminating on carrier B's network multiplied by carrier B's cost of terminating traffic.

LEC-CMRS interconnection comfortably fits this paradigm. The Commission itself has noted that the cost of terminating traffic on a CMRS network is likely to be higher than the comparable LEC costs for traffic terminating on its network.[56] Recently, Sprint PCS submitted cost studies to the Commission demonstrating that it incurs additional, traffic-sensitive costs when carrying traffic on its networks at TELRIC costs much higher than ILEC costs.[57] These

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55 In fact, to the extent that, as discussed below, CMRS-originating traffic is passed to LECs for terminating during off-peak hours, a zero rate for termination reflects the near-zero costs to the ILEC. Thus, a rate of zero will in fact reflect the actual costs for all off-peak hours.

56 See Local Competition Order, ¶ 1117 (noting that the cost of CMRS termination "is generally considered to be greater than the cost of LEC termination.").

57 See Letter from Jonathan M. Chambers, Sprint PCS, to Thomas J. Sugrue and Lawrence E. Strickling, Re: Cost-Based Terminating Compensation for CMRS providers, CC Docket Nos. 95-185, 96-98; WT Docket No. 97-207 (Feb. 2, 2000).

include the costs associated with acquiring additional spectrum, cell sites, backhaul links, base station controllers and mobile switching centers. Moreover, while there is no statistical study documenting traffic flows, financial analysts report that traffic ratios for LEC-CMRS traffic are between 55%/45% and 70%/30%.[58]

In addition, there is evidence that the busy hours of CMRS and of landline networks are not coincident. For the landline network, peak usage occurs during the business days; most carriers, including CMRS providers, generally apply their peak rates during that time. The peak busy hours are estimated to be in the late morning and early afternoon unsurprisingly. For CMRS traffic, however, the peak times are generally in the early morning and late afternoon, i.e., during travel times.[59] Further, based on an earlier, and unrebutted survey by CTIA of its members, it is the case that LECs deliver much of their terminating traffic to CMRS during travel times, i.e., CMRS peak times.[60] This asymmetry in peak times suggests strongly that CMRS-originated traffic imposes little if any additional costs on landline networks (since such minutes are delivered generally during wireline network off peak times), but that LEC-originated minutes impose additional costs on CMRS providers to whom they deliver terminating traffic.

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58 The Next Generation **IV;** Wireless in the **U.S.,** Merrill Lynch, Mar. 10, 2000 at 54.

59 See Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket No. 95-185, *Comments of CTIA*, at 23-24 (filed Mar. 4, 1996) (noting "that the busy hours for CMRS and LEC networks very likely are non-coincident."); see also, Brenner & Mitchell, Economic Issues In The Choice of Compensation Arrangements for Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, Prepared by Charles River Associates, at 15 (Mar. 4, 1996).

60 In instances where CMRS providers offer both peak and off-peak rates, peak prices typically extend into drive time, well before and after wireline peak times.

These factors demonstrate that bill and keep efficiently approximates both peak and off-peak costs of terminating for LEC-CMRS interconnection arrangements. The dynamic efficiency implications of the current regime or any other structure that sets positive values for termination and transport are significant. Competition will plainly be impaired by any arrangement that results in above-cost interconnection charges. Moreover, the problems such charges impose are borne more heavily by the CMRS provider than by the incumbent LEC Thus, to the extent that wireline LECs are able to push CMRS prices above true costs, they diminish CMRS from becoming full competition substitutes for wireline services. Bill and keep arrangements will not absolutely foreclose the risk of getting prices wrong, but it substantially reduces that risk, and in turn promotes competitive development and expansion.

2. Bill and keep introduces valuable administrative efficiency.

The choice of any particular method of interconnection compensation must account for the net efficiency gains, that is, it must include an assessment of the administrative costs of implementation. It is unquestionable that any form of positive pricing for termination imposes more implementation and maintenance costs than bill and keep. Examples include the cost of usage monitoring equipment, costs of information collection, costs of preparing invoices, and costs of collection and dispute resolution. In the case of CMRS, it is readily apparent that continuation of the presumed symmetrical rate arrangement will invite more and more administrative disputes, as CMRS providers seek to establish rates that reflect their higher costs of interconnection. When the added costs of more difficult implementation and maintenance costs associated with a positive pricing arrangement are accounted for, bill and keep is plainly the better choice.

Moreover, bill and keep is administratively simple for both regulators and regulated industries. Administrative simplicity not only conserves valuable governmental resources, it

enhances competition by reducing entry and expansion costs. Positive pricing, on the other hand, requires stringent, ongoing regulatory oversight, thereby increasing costs for both regulators and industry participants.

3. Bill and keep for LEC-CMRS interconnection will not invite the problems that COBAK and Atkinson- Barnekov claim need to be addressed in the general case.

Whatever solutions may ultimately prove appropriate for other kinds of interconnection, LEC-CMRS interconnection on a bill and keep basis at a single point of interconnection need not be complicated. The special regulatory arbitrage opportunities which the Notice documents in the case of CLECs simply did not arise for CMRS, and there is no reason to believe that, under bill and keep, that CMRS carriers will pursue such arbitrary opportunities.

First, the problem of CLECs seeking out customers with specialized traffic patterns does not occur for **CMRS.** The Notice specifically notes that this form of regulatory arbitrage simply has not occurred in the case of LEC-CMRS interconnection.[61] This outcome should not be surprising. The wireline networks of new entrants incur substantial fixed, dedicated costs in order to serve an additional customer. These fixed costs necessarily give these CLECs an incentive to seek out large volume customers since their costs of carrying additional traffic will be minimal. In contrast, the fixed cost of serving an additional CMRS customer are modest. **As** a result, CMRS providers generally seek all customers, regardless of usage. Moreover, CMRS providers attract new customers by marketing the flexibility of mobile service, and plainly a significant part of the appeal of CMRS for consumers lies in this mobility. Thus, the proposition of targeting customers with large amounts of traffic in a particularized traffic flow pattern is simply inapplicable to the CMRS business. Second, the problem of terminating market power

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[61] Notice, ¶ 65

has not occurred in CMRS. While landline-to-landline interconnection has generated significant controversy over CLEC terminating access charges, this has not developed for CMRS access. These sharp contrasts between LEC-LEC and LEC-CMRS interconnection scenarios necessarily give rise to the need to examine the unique dynamics underlying CMRS networks. The Notice mistakenly suggests that the absence of these problems for LEC-CMRS means that "there may be less of an imperative to apply a new regime to LEC-CMRS interconnection where significant problems do not exist."[62] But the fact that these problems have not occurred by no means suggests that the current regime is operating efficiently. Indeed, as the Notice recognizes elsewhere, the fact that wireless networks are characterized by different cost levels and different cost structures strongly suggests that the current regime, requiring broad averaging, is doing even *more* harm to CMRS development than it may be doing elsewhere. As shown, the important conclusion to be drawn from the absence of the problems of regulatory arbitrage and terminating access is that bill and keep is ***particularly*** appropriate for LEC-CMRS interconnection. This examination shows that the traditional assumptions regarding bill and keep are simply not relevant to the CMRS world.

From the foregoing discussion, it is plain that bill and keep is the optimal policy choice. But if bill and keep were to be ordered in such a way as to allow ILECs to exploit alternative avenues for seeking rents and engaging in strategic behavior against rivals, the policy choice and its goals would be defeated. As discussed in the section below, bill and keep must be ordered at a single point of interconnection in order to achieve the Commission's sound policy objectives.

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62 Id.

IV. THE COMMISSION SHOULD ADOPT SPECIFIC INTERCONNECTION RULES TO ENSURE THAT BILL AND KEEP IS EFFICIENTLY IMPLEMENTED.

In the Local Competition Order, the Commission established certain requirements which should continue to be applicable in a bill and keep regime. Among these, it is critical that interconnecting carriers retain the right to interconnect at a single point of interconnection within a **LATA.** Further, the presumption of mutual compensation where the interconnecting carriers serve geographically equivalent areas is essential. These provisions were originally adopted to minimize the ability of incumbents to 1) impose additional costs on other carriers by requiring multiple, and sometimes inefficient, interconnection arrangements, and 2) refuse to pay interconnecting carriers cost-based rates for termination on the basis that such carriers have different network architectures. Because incumbents continue to wield market power over essential components of the nation's telecommunications network, these rules must continue to be applicable, though modified to some extent, in a bill and keep regime.

Many of these requirements were adopted pursuant to the terms of sections 251 and 252 of the Act. The principles underlying these provisions, however, remain applicable to LEC-CMRS interconnection even if the Commission goes forward under section 332.[63] These provisions and the regulations adopted thereunder were intended to limit the ability of incumbents to unfairly exercise their market power. Whether under sections 332, 251, 252, or 201, the Commission is empowered to ensure that carriers are entitled to efficient

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63 See section II, supra.

interconnection on just and reasonable terms.[64] Such authority includes the ability to order bill and keep with a single point of interconnection on a geographically symmetrical basis

A. CMRS Carriers Should Continue To Have The Right To Interconnect At A Single Point Of Interconnection.

The Commission's rules require an ILEC to interconnect with any competitive telecommunications carrier (including **CMRS** providers) at any technically feasible point.[65] Pursuant to these requirements, a competitive telecommunications carrier has the option to choose a single technically feasible point in each LATA where it interconnects with the ILEC ("single point of interconnection" or "SPOI").[66] The Notice seeks comment on whether this rule should continue to apply in the context of a bill and keep regime.[67]

The Commission should continue to permit CMRS providers to choose a single point of interconnection for purposes of exchanging traffic with ILECs. As an initial matter, SPOI is a technically feasible option that satisfies the section 251(c)(2) standards as demonstrated by the fact that it is already implemented.[68] Moreover, the SPOI requirement limits an ILEC's ability to

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64 As explained in section II, supra, the Commission adopted mutual compensation requirements for LEC-CMRS interconnection prior to the amendment to section 251(b)(5).

65 47 C.F.R. § 51.321; 47 U.S.C. § 251(c)(2)(B).

66 Notice, ¶ 72; see also Local Competition Order, ¶ 172 ("The interconnection obligation of section 251(c)(2) . . . allows competing carriers to choose the most efficient points at which to exchange traffic with incumbent LECs, thereby lowering the competing carriers' costs of, among other things, transport and termination of traffic.").

67 Notice, ¶ 72.

68 See Application by SBC Communications Inc. *et al.* to Provide In-Region, InterLATA Services in Texas, CC Docket No. 00-65, *Memorandum Opinion and Order,* 15 FCC Rcd 18,354, ¶ 78 n.174 (2000) (noting that the WorldCom/SWBT interconnection agreement provides for SPOI).

manipulate its market power by raising its competitor's costs. Otherwise, ILECs could exploit the advantages of their already-constructed ubiquitous networks in an anticompetitive manner by requiring competitors to interconnect at locations that could be inefficient or unnecessary with respect to the competitor's network configuration. Alternatively, an ILEC could require multiple POIs where one would suffice. As the Commission explained:

> Section 251(c)(2) gives competing carriers the right to deliver traffic terminating on an incumbent LEC's network at any technically feasible point in that network, rather than obligating such carriers to transport traffic to less convenient or efficient interconnection points. Section 251(c)(2) lowers barriers to competitive entry for carriers that have not deployed ubiquitous networks by permitting them to select the points in an incumbent LEC's network at which they wish to deliver traffic.[69]

By allowing a competitor to designate a single point per LATA (and, of course, additional points of interconnection should traffic patterns and network configurations render such an arrangement efficient), the Commission's rules enable CMRS providers to designate efficient interconnection and minimize strategic opportunities otherwise available to the ILEC. As the Ninth Circuit recently observed:

> We recognize that § 251(c)(2) gives **CMRS** providers the right to deliver traffic to any technically feasible point on an ILEC's network; it does not obligate them to transport traffic to inconvenient or inefficient interconnection points.[70]

The implementation of a bill and keep regime will not eliminate the anticompetitive incentives that justify SPOI. **As** explained more fully above, a bill and keep regime, *inter alia*, will promote a more efficient competitive model. However, the ILECs' ubiquitous networks remain. A change in compensation mechanisms will not alter the ILECs' ability to exploit their

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69 Local Competition Order, ¶ 209

70 U.S. WEST Communications, Inc. v. Washington Utils. and Transportation Comm'n, 255 F.3d 990, 996 n.1 (9th Cir. 2001) ("Washington Utils.").

network ubiquity (and their competitors' lack of such ubiquity) by imposing requirements that require unnecessary but costly expenditures in order for CMRS providers to interconnect. Hence, it is of critical importance that the SPOI requirement continue to operate should the Commission replace the reciprocal compensation regime with bill and keep.

Where an ILEC lacks authority to carry traffic across LATA boundaries, the SPOI should be available on a per-LATA basis as it is currently. However, where the ILEC has been granted interLATA authority for a particular LATA or LATAs, the CMRS SPOI rights should be defined by reference to the MTA rather than the LATA. This naturally follows from the Commission's previous conclusion that CMRS within an MTA was comparable to wireline service within a local calling area,[71] an analysis cited with approval by the D.C. Circuit.[72] It is also consistent with the Commission's determination in the Local Competition Order that the MTA would serve as the "most appropriate definition for [a] local service area for CMRS traffic for purposes of reciprocal compensation under section 251(b)(5)" and that "traffic to or from a CMRS network that originates and terminates within the same MTA is subject to transport and termination rates under section 251(b)(5), rather than interstate and intrastate access charges."[73] The reasoning underlying these conclusions would not be altered by the implementation of a bill and keep compensation mechanism.

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71 Policy and Rules Concerning; the Interstate Interexchange Marketplace; Implementation of Section 254(g) of the Communications Act of 1934, as Amended; Petitions for Forbearance, CC Docket No. 96-61, *Memorandum Opinion and Order,* 14 FCC Rcd 391, ¶ 23 (1998).

72 See GTE Serv. Corp. v. FCC, 224 F.2d 768, 774 (D.C. Cir. 2000).

73 Local Competition Order, ¶ 1036.

Section 251's SPOI concept reflects the correct policy for LEC-CMRS interconnection in a bill and keep regime. However, section 251 is not the sole basis for Commission action. The same policy can and should be implemented for LEC-CMRS interconnection pursuant to the broader authority provided to the Commission by section 332. By operating pursuant to section 332, the Commission will enjoy greater control over implementation of the chosen standard

B. CMRS Carriers Should Continue To Have The Right To Interconnect On A Geographically Equivalent Basis.

The Commission's concept of "geographic equivalency" also remains relevant to a bill and keep compensation regime, albeit somewhat modified. Under section 51.711(a)(3) of the Commission's Rules, where a carrier's switch serves a geographic area comparable to that served by the ILEC's tandem switch, the appropriate rate for terminating traffic on both carriers' networks is presumed to be the ILEC tandem rate, unless a higher rate can be justified. Accordingly, the Commission's Rules require "only that the comparable geographic area test be met before carriers are entitled to the tandem interconnection rate for local call termination."[74] The purpose of the geographic equivalency test is to ensure that the Commission's rules are technologically and competitively neutral, and, under section 251 of the Act, to ensure that a competitor is entitled to at least the same level of compensation whether it uses a "wireless network' or other innovative technology to transport and terminate traffic within a geographic area that is comparable to the area in which the ILEC uses tandem and end office switches to

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[74] Notice ¶ 105; see Letter from Thomas J. Sugrue and Dorothy Atwood, FCC, to Charles McKee, Sprint PCS, Re: Cost-Based Terminating Compensation for CMRS providers, CC Docket No. 95-185 and 96-98, WT Docket No. 97-207 (May 9, 2001) (noting that section 51.711(a)(3) "requires only that the comparable geographic area test be met before a carrier is entitled to the tandem interconnection rate for local call termination . . . Therefore, a carrier demonstrating that its switch serves a geographic area comparable to that served by the incumbent LEC's tandem switch is entitled to the tandem interconnection rate.") (internal quotations omitted).

transport local traffic.[75] The principle underlying the rule -- that symmetrical compensation is generally appropriate where the point of interconnection allows each connecting carrier to serve geographically equivalent areas -- is plainly applicable to bill and keep as well.

A recent Circuit Court decision has upheld the Commission's geographic equivalency requirement as applied to CMRS providers.[76] Specifically, the court concluded that the Mobile Switching Center ("MSC") serves a geographic area similar to the ILEC tandem and the wireless carrier, therefore, was entitled to reciprocal compensation at the tandem switch rate. In doing so, the court also recognized that interconnection between the MSC and the LEC tandem is an efficiently configured network architecture.[77]

In the case of LEC-CMRS direct interconnection, bill and keep at a meet point between the LEC tandem and the CMRS carrier's MSC is the most efficient regulatory solution. First, this type of interconnection is typical of current arrangements where there is sufficient traffic exchanged.[78] Second, it eliminates the need to compute any positive rate for transport and termination. Third, it is equitable, since each carrier is delivering the other's traffic within a roughly equivalent serving area, thereby making the barter fair consideration.

As several state commissions have concluded, the Commission should make clear in this proceeding that the MSC serves the same geographic area as the ILEC tandem, thus entitling CMRS providers to interconnect at that location. By doing so here, the Commission would be establishing an administratively easy process that would significantly reduce the amount of

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75 Local Competition Order, ¶ 1090.

76 Washington Utils., 255 F.3d 990.

77 Id., 255 F.3d at 995.

78 The problem of three-network calls raises special problems discussed in section V, infra

costly litigation and arbitration which currently exists. Wireless carrier MSCs will always meet the geographic equivalency standard. As stated above, wireless carriers typically serve large geographic areas with just a few switches, whereas ILECs historically have had several times more end offices and usually the same or slightly more tandems serving similar sized areas. The Commission can therefore safely presume that a wireless MSC will serve at least as much geographic area as an ILEC tandem

The Commission does not, and should not, require wireless carriers to continually prove that the MSC is a fbnctional equivalent to the tandem -- experience has shown that such analysis adds little value. Although fbnctionality is not a component of the Commission's rules for determining whether the tandem interconnection rate applies, certain states have determined that even under such a paradigm, the MSC provides fbnctionality equivalent to a tandem, and more The Illinois Commerce Commission ("ICC"), for example, concluded that the wireless MSC is both the functional and geographical equivalent of a wireline tandem.[79] Likewise, the Michigan Public Services Commission has held that:

> Information submitted by the parties supports AirTouch's claim that its MSCs and MTSOs function in a manner that is similar to, and possibly better than, Ameritech Michigan's facilities. For example, it was noted that "interconnection at one AirTouch MSC allows [Ameritech Michigan] access to AirTouch's entire network." In contrast, interconnection at one of Ameritech Michigan's tandem switches "is limited to access to the end offices that reside behind that specific tandem" and interconnection at an Ameritech Michigan end office "is limited to the NXXs that reside on it." As for geographic area served, the record indicates that (due to its use of wireless technology) AirTouch's coverage is "continuous" within each county where one of its MSCs or MTSOs provide service, whereas

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[79] See Verizon Wireless Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, Docket No. 01-0007, ***Order*** at 11-12 (May 1, 2001) ("Ameritech Illinois Arbitration Order").

each of Ameritech Michigan's tandem switches generally serves scattered exchanges.[80]

Approaches such as COBAK, requiring bill and keep at the central office and thereby requiring a functional analysis of what is a "central office," should be rejected. As an initial matter, it is at best futile and at worst dangerous to compare newer network architectures to the architecture of legacy networks for determining the terms and conditions of interconnection. The Commission cannot continue to be constrained by history when more efficient opportunities are available -- efficiencies which, in competitive markets, will lead to lower end user prices. The Commission recognized this when, in the context of presumed symmetrical compensation between LECs and CMRS carriers, it concluded that "[t]he 'equivalent facility' language of section 51.701(c) and (d) of the Commission's Rules was not intended to require that wireless network components be reviewed on the basis of their relationship to wireline network components."[81] Accordingly, wireline network architecture and its components should not be the basis for determining efficient terms of interconnection.[82] The risk of regulators 'getting it wrong' leads to inadvertent favoritism of some networks over others.

And the likelihood of getting it wrong is already in evidence. The COBAK paper states without support that there is general agreement that the CMRS MTSO (or MSC) is the equivalent of a central office. CTIA disagrees with this statement, and even more with the

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80 Application of AirTouch Cellular, Inc. for Arbitration of Interconnection Terms, Conditions, and Prices from Ameritech Michigan, Case No. U-11973, ***Opinion and Order*** at 9 (Aug. 17, 1999) (internal citations omitted).

81 Notice, ¶ 104.

82 While specific traffic patterns between networks may, and often do, cause carriers to form direct interconnection arrangements at a single point, the Commission's rules should continue to require that ILECs provide a single point of interconnection while also permitting carriers to establish additional points of interconnection as the traffic warrants.

suggestion that there is any consensus on its accuracy. To the extent one insists on drawing parallels, the analysis above demonstrates that an MSC functions in a manner far more similar to a tandem and generally covers a geographic area at least as large as but more often larger than a tandem. For wireless to landline calls, it is the cell site (base station) that serves as the first point of concentration in the wireless network. The MSC routes calls originated on the wireless carrier's network from a cell site to the call's destination by sending the call to the tandem switch of the recipient's LEC or to another MSC which then passes the call on to the appropriate LEC switch. For calls originating on the LEC network, the MSC receives the call and routes it to the appropriate cell site or to another MSC for delivery to the appropriate cell site. After a call has been initiated, the cell site monitors the quality of the signal and as a user travels, the MSC will reroute the call to another cell site or to a second MSC that is in a better position to reach that cell site.[83] The MSC also has non-switching functions, such as record keeping, routing calls for 911 and operator services, and converting and transmitting the signaling that accompanies the call.

Like tandems, MSCs also switch calls to other MSCs. LECs and **CMRS** providers typically decide which switches will be interconnected and refer to this as the mobile gateway. When a call originates with the landline carrier, that carrier routes the call through its network to the switch which has a point of interconnection with the MSC. The MSC then transfers the call within the CMRS carrier's network to the MSC in the best position to reach the cell sites with the best signals for receiving the mobile call. Typically, the MSC will serve a geographic area that is comparable to, if not larger than, areas served by LEC tandem switches. Thus, to the extent one insists on drawing analogies, the MSC is appropriately viewed as the tandem switch.

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[83] Increasingly, newer mobile architectures are initiating handoffs at the base station.

COBAK introduces the complication and inefficiency of the central office problem ostensibly as a means of counteracting the free rider problem. Each carrier has an incentive to push the costs of interconnection onto the other. But in designating bill and keep to the central office, COBAK simply makes one form of interconnection the rule -- regardless of its inefficiency in many cases. By requiring interconnecting carriers to bear the full costs of transport, rather than sharing, COBAK reintroduces many of the inefficiencies of the current regime. It mandates setting positive prices for interconnection, reinviting administrative disputes and litigation over cost allocation methods. It also ties down the newer technologies to the legacy networks and their costs and cost structures. Indeed, it is a wireline-centric model that fails to account for CMRS network architectures, and risks imposing additional costs on CMRS subscribers.

Direct connection to a LEC end office from the MSC is generally inefficient today because there is not enough traffic exchanged at each end office. When traffic levels rise to the point that direct interconnection is warranted, **CMRS** carriers will seek to establish such connections. The Commission concluded as much in the Notice when it recognized that "[a]s wireless traffic is growing . . . CMRS carriers increasingly enter into direct interconnection agreements."[84] Similarly, if traffic between a wireless carrier and a particular point in the LEC network rises to a level that justifies direct interconnection, both carriers can be expected to reach agreement and interconnect at that point. If direct interconnection is not justified based on traffic levels, the Commission's rules should not enable incumbents to insist on interconnection at such points.

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84 Notice, ¶ 95

C. The Commission Should Limit An ILEC's Ability To Order End Office Interconnection By CMRS Providers.

While it is true that in a competitive market carriers will have the incentive to push costs on to each other, the current asymmetrical bargaining positions of ILEC-CMRS carriers provides an additional incentive for the LEC to engage in strategic behavior to both exploit and maintain its market power. COBAK fails entirely to grapple with this problem, insisting that central office bill and keep, by ***not*** providing the more efficient alternative, will prompt carrier negotiations to arrive at that solution. But there is no sound basis for this assertion. The ubiquity of the ILECs' networks -- the very market power that warrants regulatory intervention in the first place -- means that market outcomes will not be efficient. More proactive regulation is therefore required, with rules that require bill and keep at a single point of interconnection between LECs and CMRS providers serving geographically equivalent areas.

This concern is not theoretical. Many ILECs have claimed that they should not be required to offer interconnection at their tandems because such facilities have reached capacity. Each LEC, however, appears to deal with the issue differently and in some cases differently by region. For instance, SBC in the Pacific Bell region, has deployed new tandems for a net gain of 6 tandems in the last four years. Rather than deploying new tandems in its Ameritech region, however, SBC has sought to impose a direct trunking requirement on certain CMRS providers, regardless of the level of traffic exchanged in that area. Other LECs are reported to have used the "tandem exhaust" argument as a rationale to require carriers to establish direct trunks to ILEC end offices.

The Commission should require ILECs, that claim that their tandem switches have exhausted, to show that all of the trunk port equipment at the tandem is occupied and that the switch has reached the manufacturer's level for call-carrying capacity. The Commission should

also require ILECs to establish reasonable traffic thresholds as a precondition for a direct trunking requirement to the end office. If in fact an ILEC tandem satisfies these conditions, and a CMRS carrier is required to trunk directly to the ILEC end office, the ILEC should bear the cost of the facility from the tandem to the end office (and **CMRS** carriers should never be forced to interconnect at the remote). This rule makes economic sense because it requires both parties to share the costs associated with alleviating the network congestion problem and prevents either party from imposing the costs to remedy such situation entirely on one party.

In a recent decision, the **ICC** found that although Ameritech Illinois had carried its burden to demonstrate that tandem exhaust was a problem, the CMRS provider should not be required to bear the cost of transport to trunk traffic directly to Ameritech Illinois' end offices.[85] Instead, the ICC ordered Ameritech Illinois to bear the cost of these facilities and required the CMRS carrier to meet the LEC in the tandem building at a digital cross-connect facility. The ICC in essence ordered a meet point at the digital cross connect in the tandem building, with each carrier bearing its costs on either side of the meet point. In valid instances of tandem exhaust, this appears to be an acceptable model for dealing with tandem exhaust.[86]

Tandem congestion should not affect LEC-CMRS bill and keep. If a LEC can demonstrate tandem exhaust, the Commission should establish that bill and keep will continue to be available at the symmetrical level, albeit perhaps somewhere in the LEC tandem building at a meet point instead of at the actual tandem switch. Such an approach would recognize that facilities exhaustion is an issue for all carriers, and that all carriers must rely on their own resources to support the escalating usage of their networks.

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85 Ameritech Illinois Arbitration Order at 6-8.

86 Id.

V. THE COMMISSION SHOULD TAKE IMMEDIATE ACTION TO CLARIFY CERTAIN RULES WITH RESPECT TO THE EXISTING INTERCONNECTION COMPENSATION REGIME.

The Commission should also use this proceeding to provide immediate resolution of certain issues arising under the existing network compensation regime. The Commission should confirm its previous determination that any CMRS call that originates and terminates in a single MTA is considered a local call, and thus LECs cannot collect access charges for such calls. As the Commission has made clear, LECs should not be permitted to collect toll rates for local calls made to local CMRS subscribers. Further, the Commission should make absolutely clear that various other tactics that impair CMRS providers' right to interconnect, directly or indirectly, will not be tolerated. Finally, CMRS providers' rights to assess and collect access charges for true toll calls should be reaffirmed.

A. LEC-CMRS Calls Within A Single MTA Are Local Calls.

In certain areas, rural ILECs have extracted rents by erroneously asserting an ability to collect access charges on local calls. Notwithstanding clear FCC rules to the contrary,[87] rural LECs have attempted in various ways to charge for origination and termination of local calls made to or from wireless subscribers. In some instances, rural LECs have used boundaries other than the MTA to define the local calling area, thereby effectively reclassifying local **CMRS** calls as toll calls, and subjecting these calls to toll rates and access charges. For calls originating in

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87 The Local Competition Order provides that LECs have an unequivocal duty to interconnect both directly or indirectly to CMRS carriers and to establish reciprocal compensation arrangements for the transport and termination of telecommunications, and that traffic to or from a CMRS network that originates and terminates within the same MTA is local and subject to transport and termination rates rather than interstate and intrastate access charges. See Local Competition Order, ¶¶1036, 1041; 47 C.F.R. § 51.702(b)(2) (defining local CMRS traffic as "traffic between a LEC and a CMRS provider that, as the beginning of a call, originates and terminates within the same Major Trading Area").

the rural ILEC's network and terminating on the CMRS network, the ILEC has rated these calls as toll calls and charged consumers as if a toll call had been made. Rating these calls as toll calls allows the ILEC to assess originating access charges on the **CMRS** provider, thereby evading the prohibition against origination charges established by the Commission's Rules." This misconduct has hurt rural consumers as well as wireless providers since these calls can involve one family member calling another (usually in the same rural town).

For calls originating on the wireless network and terminating on the landline network, the rural ILEC may also attempt to assess terminating access charges in lieu of the lower transport and termination charge through this ruse of re-rating the call. Here, too, efficient provisioning of CMRS is impaired through the imposition of additional charges that are above costs and should not be assessed.

Some rural LECs are attempting to assess access charges (or their equivalents) even without the unlawful contrivance of redefining the local calling area. In Missouri, for example, rural LECs have filed tariffs imposing unilateral, access-like rates for termination of local wireless traffic. In the case of Missouri, the state commission has actually permitted exorbitant, one-sided rates for local rural carriers.[89] The Missouri decision has prompted rural carriers to

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88 See 47 C.F.R. § 51.703(b) which provides that a "LEC may not assess charges on any other telecommunications carrier for local telecommunications traffic that originates on the LEC's network.'' The Commission's rules defines the local calling area for LEC-CMRS calls as the MTA boundary. 47 C.F.R. § 51.701(b)(2). Thus, a LEC may not charge originating access fees against CMRS calls that originate on the LEC network and terminate within the same MTA. See also 47 C.F.R. § 20.11 (requiring mutual compensation for LEC-CMRS traffic).

89 The Missouri PSC approved a state tariff that imposes non-cost based rates for termination of wireless traffic that averages $0.0605 per minute of use. This average rate is more than 40 times the rate cap recently approved by the Commission for termination of ISP- bound traffic and significantly greater than rates negotiated by wireless carriers with rural LECs in other states.

file additional tariffs and even to seek retroactive payments from wireless carriers at access-like rates as far back as 1997.[90]

The Commission should reaffirm its previous determinations with respect to the collection of access charges and the local calling area boundary for CMRS traffic. In the Local Competition Order, the Commission ruled that as a matter of federal law, the MTA defines the local calling area for CMRS calls and that CMRS carriers are not obligated to pay access charges for calls that originate and terminate within this boundary. The Commission concluded that "traffic between an incumbent LEC and a CMRS network that originates and terminates within the same **MTA** … is subject to transport and termination rates under section 251(b)(5), rather than interstate or intrastate access charges."[91] Attempts to evade this unambiguous ruling should not be tolerated.

B. The Commission Should Reaffirm Its Rules In Light Of Rural ILEC Tactics Impairing CMRS Providers' Right To Interconnect.

Additional problems have arisen where CMRS providers connect indirectly with small ILECs through a larger ILEC. In such cases, the ILECs typically have bill and keep arrangements. Even though the charges for all calls between the two ILECs are governed by that agreement, and the charges for all LEC-CMRS calls are to be governed by the large ILEC-CMRS interconnection agreement, small ILECs have sought to impose additional costs directly on wireless providers. These problems have taken a variety of forms, including the unlawful rating of local calls as toll calls as described above, demands for direct interconnection even

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90 In July and August 2001, a number of rural carriers amended their wireless termination tariffs in Missouri to allow them to charge CMRS carriers an additional, unidentified rate for re-connecting wireless carriers when they have disconnected pursuant to their tariffs.

91 Local Competition Order, ¶ 1043

where traffic amounts plainly cannot justify the expense, the assessment of duplicate termination charges already paid to the large ILEC by the CMRS provider, and/or demands for payment of a number of "facilities" charges by the rural ILEC. The Commission should make clear that such demands and charges are unlawful under its current rules, and that CMRS providers cannot be required to "pay twice" for the same services even though two ILECs may be involved in the call.

Indirect interconnection with smaller LECS through larger ILECs is crucial to the efficient provisioning of service. Tactics that impair these arrangements actually jeopardize the competitive availability and growth of wireless services in rural areas, where low traffic volumes may not be able to economically justify more expensive direct interconnection arrangements. Absent indirect interconnection, wireless carriers would have to arrange for direct trunks between their switches and each of the literally hundreds of rural LECs in each state. Especially in light of the clear federal policies to ensure that efficient telecommunications services are available in rural areas, these LECs' attempts to raise wireless costs to rural Americans must be foreclosed

C. The Commission Should Reaffirm The Rights Of CMRS Providers To Collect Access Charges For Toll Calls.

In the Local Competition Order, the Commission determined that CMRS carriers are entitled to collect access charges for originating and terminating interstate, interexchange calls.[92] The Commission determined that "traffic to or from a CMRS network that originates and terminates within the same MTA is subject to transport and termination rates under section

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92 Id., ¶ 1036.

251(b)(5), rather than interstate and intrastate access charges."[93] Accordingly, when traffic originates and terminates between multiple MTAs, the traffic is subject to access charges, and thus where appropriate, CMRS carriers may collect access charges from the interexchange carrier. Despite this determination, some interexchange carriers have refused to pay access charges to CMRS carriers when the CMRS carrier terminates an interexchange call. The Commission should confirm its previous determination that, where appropriate, CMRS carriers are entitled to collect access charges for traffic that originates and terminates from different MTAs.

VI. CMRS PROVIDERS SHOULD CONTINUE TO HAVE THE RIGHT TO USE VIRTUAL NXXS.

The Commission seeks comment on the use of virtual central office codes (NXXs), and their impact on the reciprocal compensation and transport obligations of interconnected LECs.[94] The Commission raises the virtual NXX issue with respect to interconnection between LECs and CLECs. Because many of these issues raised in the Notice are not applicable to CMRS providers, they should not have any impact on LEC-CMRS bill and keep or the continued use of virtual NXXs by CMRS providers. The difference between the CLEC practices, which use virtual foreign exchange service by implementing virtual rate centers and typical LEC-CMRS interconnection is significant. CMRS providers have utilized virtual NXXs almost since the inception of mobile wireless services. They often have facilities and customers in close proximity to the virtual rate center and CMRS carriers do not use virtual rate centers to aggregate traffic to avoid toll.

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93 Id.

94 Notice, ¶ 115.